

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
17 February 2005 (17.02.2005)

PCT

(10) International Publication Number
WO 2005/015209 A2

(51) International Patent Classification⁷: **G01N 33/50**

(21) International Application Number:
PCT/EP2004/007339

(22) International Filing Date: 6 July 2004 (06.07.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0316943.0 21 July 2003 (21.07.2003) GB

(71) Applicant (for all designated States except US): **AMERSHAM BIOSCIENCES AB** [SE/SE]; Bjorkgatan 30, S-751 84 Uppsala (SE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KAPLAN, Anders** [SE/SE]; Amersham Biosciences AB, Bjorkgatan 30, S-751 84 Uppsala (SE). **BJORKESTEN, Lennart** [SE/SE]; Amersham Biosciences AB, Bjorkgatan 30, S-751 84 Uppsala (SE).

(74) Agents: **FRANKS, Barry** et al.; Amersham plc, Amersham Place, Little Chalfont, Buckinghamshire HP7 9NA (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

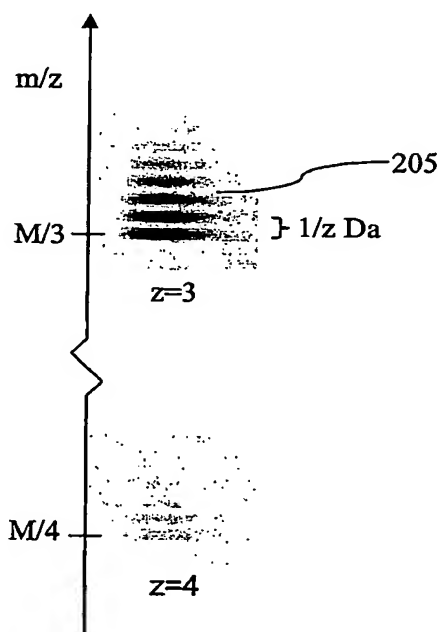
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

[Continued on next page]

(54) Title: METHODS AND SYSTEMS FOR THE ANNOTATION OF BIOMOLECULE PATTERNS IN CHROMATOGRAPHY/MASS-SPECTROMETRY ANALYSIS



(57) Abstract: The method and measurement system according to the invention performs combined Chromatography and Mass Spectrometry analysis and comprises the steps of: performing an C/MS analysis (300); generating at least one first elution profile (305), wherein one dimension is an elution time of the chromatography, and one dimension is mass to charge ratio (m/z), and at least one dimension a signal intensity, and the signal from each biomolecule species is dispersed forming a plurality of signal peaks associated with each biomolecule species in the elution profile; and reassembling (310) the dispersed signal originating from one biomolecule species in the elution profile. The reassembling comprises an automated annotation adapted to reassemble signal variations in the elution profile that originate from the same biomolecule species and generating a biomolecule map. The automated annotating is simultaneously based on both the elution time-dimension and the m/z -dimension.

WO 2005/015209 A2



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.